

PATENT ABSTRACTS OF JAPAN

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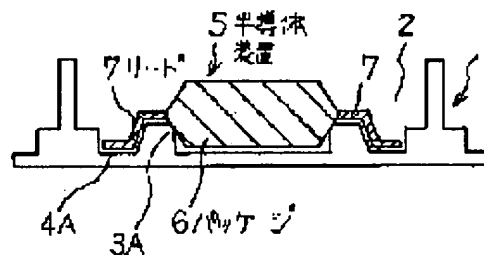
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(54) RECEIVING TRAY FOR SEMICONDUCTOR DEVICE AND METHOD FOR INSPECTING APPEARANCE OF BENT LEAD OF SEMICONDUCTOR DEVICE

(57)Abstract:

PURPOSE: To prevent a lead from flexing caused by external force in a receiving tray for a semiconductor device having a plurality of leads molded at an end of a package by providing a protrusion for fixing the end of the package at a bottom and a groove having the same shape as that in a molded state of the lead.

CONSTITUTION: A package 6 is provided by sealing semiconductor chips or the like with resin or the like, and a tray 1 for receiving a semiconductor device 5 having a plurality of leads 7 molded at an end of the package 6 includes a chamber 2 for individually receiving the semiconductor device 5. A protrusion 3 for fixing the end of the package 6 and a groove 4A conformal to a molded state of the lead are provided at a bottom of the chamber 2. Thus since the package 6 is fixed by the protrusion 3A, and the lead 7 is also received in the groove 4A, deformation of the lead 7 can be prevented even if impact is applied to the tray 1. In addition, appearance inspection of a bent lead can be easily performed by utilizing the tray 1.



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CLAIMS

[Claim(s)]

[Claim 1] The receipt tray of the semiconductor device characterized by preparing the height for fixing the edge of said package to the pars basilaris ossis occipitalis of said receipt tray, the molding condition of said lead, and the slot on the isomorphism in the receipt tray of the semiconductor device which has two or more leads cast by the edge of a package.

[Claim 2] The lead deflection visual-inspection approach of the semiconductor device characterized by sorting out lead deflection by whether a semiconductor device is contained in the receipt tray for semiconductor devices according to claim 1, and the semiconductor device is contained correctly.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the lead deflection visual-inspection approach of the receipt tray of a semiconductor device, and a semiconductor device.

[0002]

[Description of the Prior Art] The conventional receipt tray which contains a semiconductor device and performs storage, transport, etc. is divided into the chamber 2 for the tray of one sheet to contain one semiconductor device at a time at the business shown in drawing 4, and has structure with the height 3 for making a semiconductor device fix in each chamber 2.

[0003] Although there is a configuration of this height 3 plentifully By fixing only the edge of the package 6 which constitutes a semiconductor device 5 by height 3B of a tray pars basilaris ossis occipitalis like drawing 5, when containing a semiconductor device on a tray conventionally When containing lead 7 in the condition that other contact cannot be found, and establishing a crevice 8 in the underside of the package 6 of a semiconductor device 5 like drawing 6 and joining this crevice 8 and height 3C of a tray at the time of receipt There is the approach (for example, JP,2-122658,A) of making fix only a package 6 in the condition of not contacting lead 7 to others, and making it contain.

[0004] Furthermore, the method of making only the lead 7 of a semiconductor device fix and contain by height 3D of a tray is also used like drawing 7 (for example, JP,63-82976,A).

[0005]

[Problem(s) to be Solved by the Invention] Although either the package of a semiconductor device or a lead is made to fix and being contained on the receipt tray of this conventional semiconductor device, when making only a package fix, a lead may deform by the oscillation, impact, etc. at the time of haulage. Since it is furthermore package immobilization and containing on a tray is possible as long as there are no abnormalities in a package, even if lead deflection has occurred before receipt, there are receipt and a problem that it will be shipped, as incorrect **, without the ability discovering lead deflection.

[0006] Moreover, when only a lead is fixed without fixing a package and the force joins a package, there is a problem that stress will concentrate on a lead and a lead will bend.

[0007] The object of this invention is to offer the receipt tray of the semiconductor device which deformation of a lead does not generate. Other objects of this invention are to offer the lead deflection visual-inspection approach of the possible semiconductor device of sorting out a lead knee easily.

[0008]

[Means for Solving the Problem] The receipt tray of the semiconductor device of the 1st invention is characterized by preparing the height for fixing the edge of said package to the pars basilaris ossis occipitalis of said receipt tray, the molding condition of said lead, and the slot on the isomorphism in the receipt tray of the semiconductor device which has two or more leads cast by the edge of a package.

[0009] The lead deflection visual-inspection approach of the semiconductor device the 2nd invention is characterized by sorting out lead deflection by whether a semiconductor device is contained in the

receipt tray for semiconductor devices of the 1st invention, and the semiconductor device is contained correctly.

[0010]

[Example] Next, the example of this invention is explained with reference to a drawing. The plan of the receipt tray for the semiconductor devices of the 1st example of this invention in drawing 1 and drawing 2 are the sectional views at the time of containing a semiconductor device on the receipt tray.

[0011] If drawing 1 and drawing 2 are referred to, will close a semiconductor chip, a bonding wire, etc. with resin or a ceramic, and it will consider as a package 6. The tray 1 which contains the semiconductor device 5 which has two or more leads 7 cast by the edge of this package 6. The chamber 2 for containing a semiconductor device separately is formed, and slot 4A of isomorphism is completely prepared in the pars basilaris ossis occipitalis of this chamber with height 3A for fixing the edge of a package 6, and the molding condition of the whole lead of an one direction.

[0012] Thus, since according to the 1st constituted example the package 6 of a semiconductor device 5 is fixed by height 3A and lead 7 is moreover also contained in slot 4A of isomorphism, even if an oscillation, an impact, etc. join the receipt tray 1 during haulage of a semiconductor device 5, it is lost that lead 7 deforms.

[0013] Drawing 3 is the plan of the receipt tray of the 2nd example of this invention, and a different place from the 1st example shown in drawing 1 is that much slot 4B of the molding configuration for every lead 7 of a semiconductor device 5 and isomorphism is prepared in the pars basilaris ossis occipitalis of a chamber 2.

[0014] Thus, according to the 2nd constituted example, since it is fixed thoroughly, the package 6 and each lead 7 of a semiconductor device 5 do not transform lead 7 according to the external force of the upper and lower sides and a longitudinal direction, either. Moreover, by the ability of a semiconductor device 5 to contain correctly on a tray 1, since the lead deflection sample generated before receipt can be sorted out, lead deflection visual inspection can be carried out with this. In addition, if only the base section of slot 4B for each lead in a tray is colored, a lead deflection sample can be sorted out more effectively.

[0015]

[Effect of the Invention] Since a package and a lead are thoroughly fixable at the time of receipt of a semiconductor device by preparing the molding condition of the height and lead which were explained above and with which this invention makes the package of a semiconductor device fix to a receipt tray pars basilaris ossis occipitalis like, and the slot on the isomorphism, it is effective in the ability to prevent deformation of the lead by external force.

[0016] Furthermore, it is effective in the ability to carry out lead deflection visual inspection of a semiconductor device easily using this receipt tray.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The plan of the receipt tray for the semiconductor devices of the 1st example of this invention.

[Drawing 2] The sectional view in the condition of having contained the semiconductor device on the tray of an example.

[Drawing 3] The plan of the tray of the 2nd example of this invention.

[Drawing 4] The plan of the conventional receipt tray.

[Drawing 5] The sectional view in the condition of having contained the semiconductor device on the conventional receipt tray.

[Drawing 6] The sectional view in the condition of having contained the semiconductor device on other conventional receipt trays.

[Drawing 7] The sectional view in the condition of having contained the semiconductor device on other conventional receipt trays.

[Description of Notations]

1 Receipt Tray

2 Chamber

3, 3A - 3D Height

4A, 4B Slot

5 Semiconductor Device

6 Package

7 Lead

8 Crevice

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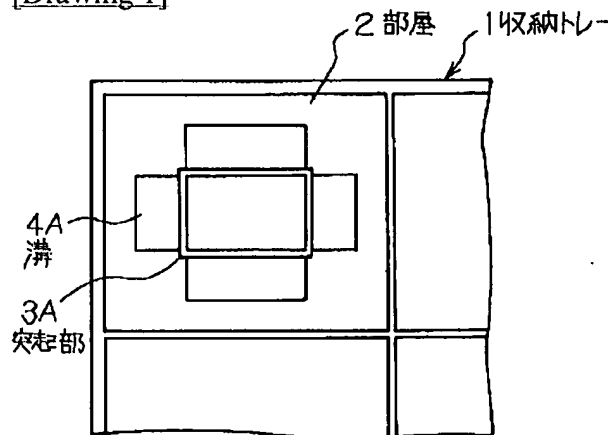
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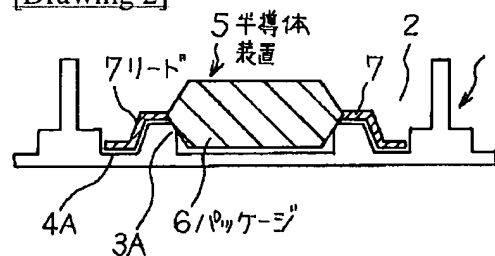
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DRAWINGS

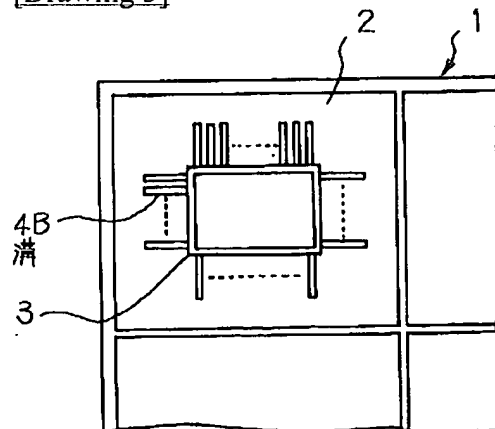
[Drawing 1]



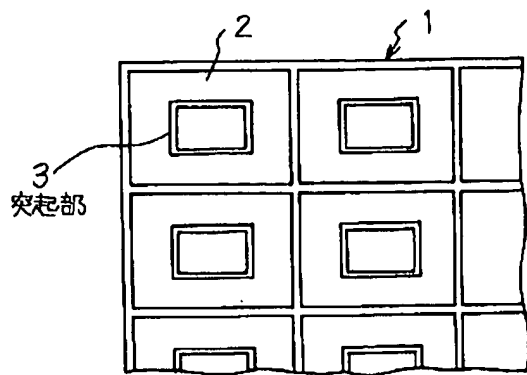
[Drawing 2]



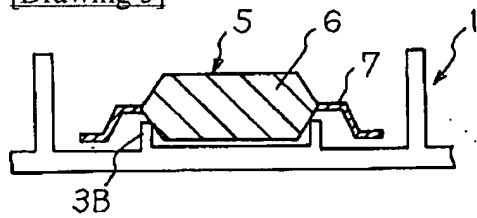
[Drawing 3]



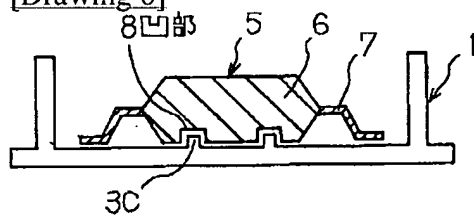
[Drawing 4]



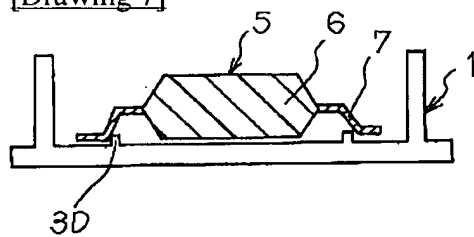
[Drawing 5]



[Drawing 6]



[Drawing 7]



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